UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

cc: Env. Def. Fred Sigg
ECF: CPT, Rev 3, VOEIA

SEP 04 2003

REPLY TO THE ATTENTION OF:
(AE-17J)

Mr. Fred Sigg
General Plant Manager
Von Roll America, Inc.
1250 St. George Street
East Liverpool, Ohio 43920

RE: Comprehensive Performance Test Plan for
Von Roll America, Inc., East Liverpool, Ohio

Dear Mr. Sigg:

This letter revises our August 19, 2003, letter to you regarding your comprehensive performance test ("CPT") plan under the National Emission Standards for Hazardous Air Pollutants from Hazardous Waste Combustors, 40 CFR 63, Subpart EEE ("the HWC MACT"). The revisions affect a request for an alternative testing method that Von Roll America, Inc. ("Von Roll") submitted to the United States Environmental Protection Agency ("U.S. EPA") in February 2003. Further, we have added our response to a request for alternative monitoring requirements pertaining to the control of combustion system leaks.

On June 22, 2001, Von Roll submitted to U.S. EPA a CPT Plan via electronic mail. On December 12, 2001, Von Roll submitted to U.S. EPA a CPT Plan, identified as Revision 0, for its hazardous waste incinerator in East Liverpool, Ohio. U.S. EPA sent comments on the CPT Plan to Von Roll on August 30, 2001, and September 11, 2002. Von Roll submitted Revisions 1, 2, and 3 of the CPT Plan on February 17, May 6, and July 2, 2003, respectively. On May 21, 2003, Von Roll replaced four pages to redact confidential business information in Revision 2. On May 29, 2003, Von Roll requested a 6-month extension to comply with the HWC MACT if U.S. EPA did not approve the CPT Plan on or before July 16, 2003. On February 17, 2003, Von Roll requested one alternative testing method. On March 12, 2003, Von Roll requested three alternative monitoring requirements. On August 1, 2003, Von Roll withdrew one of the three monitoring requests, and revised one of the requests on July 31 and August 25, 2003. On August 29, 2003, Von Roll withdrew the alternative testing request.

In brief, U.S. EPA approves Revision 3 of your CPT Plan, as

amended. U.S. EPA also approves your requests for alternative monitoring requirements pertaining to the electrostatic precipitator (ESP) and to the control of combustion system leaks. U.S. EPA disapproves your request for a compliance extension.

Process Description

Von Roll's hazardous waste incinerator includes the following major components: an inclined rotary kiln (the primary combustion chamber); a secondary combustion chamber; a waste heat boiler; air pollution control equipment (a spray dryer, an ESP, and a wet scrubber); an induced draft fan; and an exhaust stack. The induced draft fan pulls combustion gases from the rotary kiln through the waste heat boiler and the air pollution control equipment and pushes the combustion gases up the stack. Under normal operating conditions, the induced draft fan induces negative pressure on the combustion gases upstream from itself and positive pressure downstream. Because the combustion characteristics of the hazardous wastes that Von Roll burns vary widely, some hazardous wastes may cause a pressure spike during which the pressure in the primary and/or secondary chamber may become positive.

In spring 2000 and July 2003, respectively, Von Roll installed a pressure shroud around the outlet and inlet ends of the primary combustion chamber ("outlet end shroud" and "inlet end shroud") to control combustion system leaks during pressure spikes. The inlet and outlet end shrouds are a cylindrical chamber around the inlet and outlet ends of the primary combustion chamber. (The kiln rotates inside of each shroud's lips.) Von Roll pressurizes the inlet end and outlet end shrouds with air to prevent, or at least to mitigate the severity and duration of, combustion system leaks during pressure spikes. Von Roll assumes that ambient air may leak into, but not out of, the primary combustion chamber through a leak in the inlet end shroud. The company also assumes that combustion gases may leak into, but not out of, the primary or secondary combustion chamber through a leak in the outlet end shroud.

Regulatory Requirements

The HWC MACT requires the owner or operator of a hazardous waste incinerator to submit a CPT Plan. The CPT Plan must include the information specified in 40 CFR § 63.1207(f)(1)(i) through (xxvii). Pursuant to 40 CFR § 63.8(f)(2), the Administrator may approve alternatives to any monitoring methods or procedures of this part. 40 CFR § 63.1209(g)(1)(ii) provides that an owner or operator may request that the Administrator waive the requirement

for an operating parameter limit (OPL) if the owner or operator documents that neither the OPL in 40 CFR § 63.1209 nor an alternative OPL is needed to ensure compliance with an emission standard in the HWC MACT.

40 CFR § 63.1206(c)(5)(i)(B) and (C) provide two options by which the owner or operator must control combustion system leaks: by maintaining the maximum combustion zone pressure lower than ambient pressure; or by using an alternative means of control, approved by the Administrator, that controls leaks in a manner equivalent to maintaining the combustion zone pressure below ambient pressure. 40 CFR § 63.1207(f)(1)(xviii) requires Von Roll to submit requests for alternative monitoring requirements no later than the date of the CPT Plan. 40 CFR § 63.1209(p) requires the owner or operator of a hazardous waste incinerator who chooses the monitoring option in 40 CFR § 63.1206(c)(5)(i)(B) to monitor the pressure instantaneously and to engage the automatic waste feed cut off (AWFCO) system when negative pressure is not maintained at any time.

Request pertaining to Performance Test Requirements

On February 17, 2003, Von Roll requested that U.S. EPA allow Von Roll to use Reference Method 23 in 40 CFR 60, Appendix A, instead of Method 0023A as 40 CFR § 63.1208(b)(1) requires for the CPT's dioxin/furan performance tests. On August 29, 2003, Von Roll withdrew this request and amended Revision 3 of the CPT Plan by stating that Von Roll will use Method 0023A during the CPT.

Requests pertaining to Monitoring Requirements

On March 12, 2003, Von Roll submitted three requests for alternative monitoring requirements to address issues that arose during the review of Revisions 0, 1, and/or 2 of the CPT Plan.

1. a continuous conductivity monitor to measure the solids content of the scrubber liquid;
2. automated voltage/current controllers ("AVC") and total power monitoring; and
3. 5-second delay to engage the AWFCO system during pressure spikes in the secondary combustion chamber.

On February 17, 2003, Von Roll stated that it would request two more alternative monitoring requirements. As of this date, U.S. EPA has not received these requests. On August 1, 2003, Von Roll withdrew the request to use a continuous conductivity monitor to measure the solids content of the scrubber liquid. On

July 31 and August 25, 2003, Von Roll revised the third request. U.S. EPA's responses to the other two March 2003 requests are stated below.

1. OPL for the Electrostatic Precipitator

As promulgated on September 30, 1999, 40 CFR § 63.1209(m)(1)(iii) required Von Roll to establish a limit on the minimum secondary power input for each field of the ESP. On May 14, 2001, U.S. EPA withdrew this requirement from the HWC MACT. As of this date, U.S. EPA has not re-promulgated this requirement or a substitute for it. Until U.S. EPA promulgates ESP monitoring requirements in the HWC MACT, the monitoring requirements for PM control devices other than wet scrubbers in 40 CFR § 63.1209(m)(1)(iv) apply to Von Roll's ESP. Von Roll requested to continue using its AVCs on the ESP. Although U.S. EPA believes this type of ESP control is appropriate and can be effective, it is concerned that the AVCs are not sufficient verification of proper operation if there is no voltage or power requirement at all.

Von Roll concludes its argument by stating:

> If the agency still believes that the automatic control provided by the AVC is not satisfactory, and prefers a power requirement for the ESP as a regulatory condition of the combustor operation, we believe that Von Roll should be allowed to set the lower power limit of the ESP as a unit total and not as three separate ESPs.

U.S. EPA agrees that such additional power monitoring would help to assure that the AVC continues to function properly. Therefore, U.S. EPA approves the use of the AVC along with the total summed power OPL for demonstrating proper operation of the ESP. Von Roll must petition the permitting authority to have the make and model number of the AVC a condition of the permit. In addition, certain user-changeable settings on the AVC may be required to become permit conditions, based on what is observed and recorded during the CPT.

2. Pressure Monitoring in the Secondary Combustion Chamber

On March 12, 2003, Von Roll requested an alternative monitoring requirement which includes a 2-second delay to engage the AWFCO system. On June 19, 2003, Von Roll revised its request to include a 2-second delay and three OPLs to demonstrate control of combustion system leaks. On July 31 and August 25, 2003, Von Roll submitted additional information for this request. On August 19, 2003, U.S. EPA requested that Von Roll clarify this

request.

Von Roll has chosen the options in 40 CFR § 63.1206(c)(5)(i)(B) and (C): to control combustion system leaks by maintaining the maximum combustion zone pressure lower than ambient pressure; and to use an alternative means of control of combustion system leaks that is equivalent to maintaining maximum combustion zone pressure lower than ambient pressure. Under normal operating conditions, Von Roll's induced draft fan maintains the pressure in the maximum combustion zone below the ambient pressure. Von Roll pressurizes the gas in the inlet and outlet shrouds to approximately 2 inches of water column. During pressure spikes, the inlet and outlet end shrouds act as an alternative means of control of combustion system leaks that is equivalent to maintaining the pressure in the maximum combustion zone below the ambient pressure.

Von Roll requested the following alternative means to control and monitor combustion system leaks:

1. Pressurize the inlet and outlet end shrouds to approximately 0.2 inches of water column;
2. Monitor the pressure in the inlet and outlet end shrouds and in the secondary combustion chamber;
3. Establish three OPLs:
    a. The pressure in the secondary combustion chamber is greater than zero inches of water column for more than 10 seconds; or
    b. The pressure in the secondary combustion chamber is greater than the pressure in the inlet or outlet end shroud at any time; or
    c. The pressure in the secondary combustion chamber is greater than ambient pressure for more than 2 seconds during operating time when the pressurizing equipment for either shroud has failed.
4. If Von Roll exceeds any of these OPLs, the AWFCO system will engage.

U.S. EPA believes that Von Roll designed and installed its induced draft fan to maintain negative pressure through the maximum combustion zone, i.e., the primary combustion chamber, under normal operating conditions. Because pressure spikes may exceed the induced draft fan's ability to maintain negative through the maximum combustion zone, Von Roll designed and installed the shrouds to prevent combustion system leaks during pressure spikes. Von Roll has requested three OPLs to address situations when a pressure spike may exceed the shrouds' ability

to prevent combustion leaks. Thus, Von Roll intends that the shrouds control combustion system leaks in a manner that is equivalent to maintaining the pressure in the maximum combustion zone below the ambient pressure during pressure spikes.

U.S. EPA recognizes that Von Roll cannot reliably measure the pressure inside the primary combustion chamber due to the combustion characteristics of some wastes and that the combustion characteristics of some wastes may cause pressure spikes. In order to control combustion system leaks in a manner that is equivalent to maintaining the pressure in the maximum combustion zone below the ambient pressure, Von Roll has requested that it monitor the pressures inside the shrouds and the secondary combustion chamber and establish OPLs that would trigger an AWFCO event. The company identified three such operating conditions which correspond to OPLs 3a, 3b, and 3c.

When the ambient pressure is greater than the pressure in the primary combustion chamber (as measured in the secondary combustion chamber), the gas in either shroud will flow into the combustion system. If the opposite is true for 10 seconds, then the combustion system is presumed to be leaking and OPL 3a would trigger an AWFCO event to stop the combustion system leak.

When the pressure in the inlet or outlet end shroud is greater than the pressure in the secondary combustion chamber, the gas in the inlet or outlet end shroud will flow into the combustion system. If the opposite is true at any time, then the combustion system is presumed to be leaking and OPL 3b would trigger an AWFCO event to stop the combustion system leak.

When the ambient pressure is greater than the pressure in the inlet end shroud at any time or when the pressure in the inlet end shroud is less than zero inches of water column at any time, Von Roll would continue to operate under an OPL in its current Resource Conservation and Recovery Act permit and Ohio Hazardous Waste Facility Board permit. Whenever the pressure in the secondary combustion chamber is greater than the ambient pressure for more than 2 seconds, OPL 3c would trigger an AWFCO event to stop the combustion system leak.

U.S. EPA concludes that the alternative monitoring requirements that Von Roll has requested constitute an alternative means to control combustion system leaks in a manner that is equivalent to maintaining the pressure in the maximum combustion zone below the ambient pressure. Because Von Roll wants to minimize AWFCO events so that it can minimize downtime, startups and shutdowns, U.S. EPA believes that Von Roll will set the shrouds' pressure to

minimize AWFCO events due to pressure spikes. Further, whenever one of operating conditions 3a, 3b, or 3c trigger an AWFCO event, 40 CFR § 63.1206(c)(3)(v) requires Von Roll: 1, to investigate the cause of the event; 2, to take appropriate corrective measures that will minimize repetitions of the same cause; and 3, to record the findings and corrective measures in the operating record. Therefore, the Administrator of the U.S. EPA, by authority duly-delegated to the undersigned, approves Von Roll's request for alternative monitoring requirements to monitor pressure in the maximum combustion zone and to engage the AWFCO system when the operating conditions exceed one of operating conditions 3a, 3b, or 3c.

Von Roll's Comprehensive Performance Test Plan

U.S. EPA reviewed each Revision of the CPT Plan. The Ohio Environmental Protection Agency ("Ohio EPA") reviewed Revision 0 of the CPT Plan and provided its comments to U.S. EPA. U.S. EPA concludes that Von Roll's CPT Plan Revision 3, as amended by includes the required information. Therefore, U.S. EPA approves Revision 3 of the CPT Plan, as amended.

Request for a Compliance Extension

Pursuant to 40 CFR § 63.1207(e)(3), if the Administrator fails to approve or deny a CPT Plan, Von Roll may petition the Administrator under § 63.7(h) to obtain a "waiver" of an initial compliance test. The "waiver" would be implemented as an extension of time to conduct the performance test at a later date. Pursuant to 40 CFR § 63.1207(c)(1), Von Roll must conduct the initial CPT no later than 6 months after the compliance date of the HWC MACT, September 30, 2003. Thus, Von Roll must conduct the CPT by March 30, 2004.

On May 29, 2003, Von Roll requested pursuant to 40 CFR § 63.1207(e)(3) that U.S. EPA extend the HWC MACT compliance date for Von Roll to March 30, 2004. On September 11, 2002, U.S. EPA sent to Von Roll comments regarding Revision 0 of the CPT Plan. Von Roll submitted and later revised several requests for alternative monitoring requirements and for alternative test methods in February, March, and August 2003. By this letter, the Administrator approves Revision 3 of the CPT Plan, as amended, within 9 months of receiving Revision 3. U.S. EPA believes that Von Roll has sufficient time to conduct the initial CPT before March 30, 2004. Therefore, U.S. EPA disapproves your request for an extension to comply.

Summary

The Administrator of the U.S. EPA, by authority duly-delegated to the undersigned, approves Revision 3 of your CPT Plan, as amended; approves your request for alternative monitoring requirements pertaining to the ESP and to the control of combustion system leaks. U.S. EPA disapproves your request for an extension to comply.

It is our understanding that Von Roll is currently planning to conduct the CPT/Trial Burn in September of this year, with a tentative start date of September 8. Please contact Charles Hall, of my staff, at (312) 353-3443 and Gary Victorine of the Waste Management Branch at (312) 886-1479 as to the exact dates of this testing, as soon as they are known, so that plans can be made for U.S. EPA to observe the CPT.

Sincerely yours,

George Czerniak, Chief
Air Enforcement and Compliance Assurance Branch

cc: Ed Fasko, Ohio EPA/NEDO
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